



## **AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

### **LISTING OF CLAIMS:**

Claim 1 (Currently amended): A method for manufacturing a biochemical labeling material, comprising:

providing a plurality of nanoparticles;

bonding the nanoparticles to a template molecules by molecular imprinting, wherein the nanoparticles are semiconductors;

polymerizing the nanoparticles to form a matrix with uniformly-distributed template molecules, wherein a functional monomer, a crosslinking agent, and an initiator are added during polymerization of the nanoparticles; and

removing the template molecules from the matrix to ~~reveal a detection group of the matrix and~~ leave a cavity with specific area serving as a detection group of the matrix.

Claim 2 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 1, wherein the nanoparticles are metal.

Claim 3 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 2, wherein the nanoparticles are Au, Ag, Ni, or Co.

Claim 4 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 1, wherein the nanoparticles are metal oxide.

Claim 5 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 4, wherein the nanoparticles are iron oxide.

Claim 6 (Canceled).

Claim 7 (Currently amended): The method for manufacturing a biochemical labeling material as claimed in claim 16, wherein the nanoparticles are II–VI or III–V group semiconductors.

Claim 8 (Currently amended): The method for manufacturing a biochemical labeling material as claimed in claim 16, wherein the nanoparticles have core-shell structure of at least two semiconductors.

Claim 9 (Original): The method for manufacturing a biochemical labeling material as claimed in claim 1, wherein the surface of nanoparticles is further functionalized prior to bonding with template molecules.

Claim 10 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 9, wherein the surface of nanoparticles is functionalized by fluorescent molecules.

Claim 11 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 10, wherein the fluorescent molecule is dansyl-chloride, anthracene, pyrene, coumarine, n-vinylcarbazole or derivatives thereof.

Claim 12 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 9, wherein the surface of nanoparticles is functionalized by electron-transfer molecules.

Claim 13 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 12, wherein the electron-transfer molecule is amine, porphine, fullerene, organophosphine, carotene or derivatives thereof.

Claim 14 (Original): The method for manufacturing a biochemical labeling material as claimed in claim 9, wherein the surface of nanoparticles is functionalized by (3-mercaptopropyl) trimethoxy silane or (3-aminopropyl) trimethoxy silane to form a functional group thereon, able to bond to the template molecule by hydrogen bonding.

Claim 15 (Withdrawn): The method for manufacturing a biochemical labeling material as claimed in claim 9, wherein the surface of nanoparticles is functionalized by (4-vinyl pyridine) or allyl mercaptothiol to form an unsaturated double-bond thereon.

Claim 16 (Original): The method for manufacturing a biochemical labeling material as claimed in claim 9, wherein the surface of nanoparticles is functionalized by (3-mercaptopropyl) trimethoxy silane) or vinyl trimethoxy silane to form an unsaturated double-bond thereon.

Claim 17 (Cancelled).

Claim 18 (Withdrawn): A biochemical labeling material manufactured by a method comprising:

providing a plurality of nanoparticles;  
bonding the nanoparticles to a template molecule by molecular imprinting;  
polymerizing the nanoparticles to form a matrix with uniformly-distributed template molecule; and  
removing the template molecule from the matrix to reveal a detection group of the matrix and leave a cavity with specific area.

Claim 19 (Withdrawn): A biochemical labeling material as claimed in claim 18, wherein the nanoparticles are metal.

Claim 20 (Withdrawn): A biochemical labeling material as claimed in claim 19, wherein the nanoparticles are Au, Ag, Ni, or Co.

Claim 21 (Withdrawn): A biochemical labeling material as claimed in claim 18, wherein the nanoparticles are metal oxide.

Claim 22 (Withdrawn): A biochemical labeling material as claimed in claim 21, wherein the nanoparticles are iron oxide.

Claim 23 (Withdrawn): A biochemical labeling material as claimed in claim 18, wherein the nanoparticles are semiconductors.

Claim 24 (Withdrawn): A biochemical labeling material as claimed in claim 23, wherein the nanoparticles are II–VI or III-V group semiconductors.

Claim 25 (Withdrawn): A biochemical labeling material as claimed in claim 23, wherein the nanoparticles have core-shell structure of at least two semiconductors.

Claim 26 (Withdrawn): A biochemical labeling material as claimed in claim 18, wherein the surface of nanoparticles is further functionalized prior to the bonding with template molecule.

Claim 27 (Withdrawn): A biochemical labeling material as claimed in claim 26, wherein the surface of nanoparticles is functionalized by fluorescent molecule.

Claim 28 (Withdrawn): A biochemical labeling material as claimed in claim 27, wherein the fluorescent molecule is dansyl-chloride, anthracene, pyrene, coumarine, n-vinylcarbazole or derivatives thereof.

Claim 29 (Withdrawn): A biochemical labeling material as claimed in claim 26, wherein the surface of nanoparticles is functionalized by electron-transfer molecule.

Claim 30 (Withdrawn): A biochemical labeling material as claimed in claim 29, wherein the electron-transfer molecule is amine, porphine, fullerene, organophosphine, carotene, or derivatives thereof.

Claim 31 (Withdrawn): A biochemical labeling material as claimed in claim 26, wherein the surface of nanoparticles is functionalized by (3-mercaptopropyl) trimethoxy silane or (3-aminopropyl) trimethoxy silane to form a functional group thereon, able to bond to the template molecule by hydrogen bond.

Claim 32 (Withdrawn): A biochemical labeling material as claimed in claim 26, wherein the surface of nanoparticles is functionalized by (4-vinyl pyridine) or allyl mercaptothiol to form an unsaturated double-bond thereon.

Claim 33 (Withdrawn): A biochemical labeling material as claimed in claim 26, wherein the surface of nanoparticles was functionalized by (3-mercaptopropyl) trimethoxy silane) or vinyl trimethoxy silane to form an unsaturated double-bond thereon.

Claim 34 (Withdrawn): A biochemical labeling material as claimed in claim 18, wherein a functional monomer, a crosslinking agent, and an initiator are further added during polymerization of nanoparticles.